

*Faint Stars for Standards of Stellar Magnitude.**(Extract from a Letter from Prof. Pickering.)*

The charts accompanying this circular represent four out of twenty-four regions from which it is proposed to select certain stars for standards of the magnitude of faint stars. Additional information with regard to the plan is given in the printed Reports sent herewith. The regions represented in these four charts are those from 2^m to 6^m following the bright stars γ Pegasi, ϵ Orionis, η Virginis, and η Serpentis. Each region extends 5' north and 5' south of the Declination of the corresponding bright star.

It is desirable that these charts should be made as complete as possible, and it is hoped that astronomers having the use of powerful telescopes will assist in accomplishing this object. They will confer a favour upon the Observatory of Harvard College by comparing these charts with the regions which they represent, and marking upon them the places of any additional stars which may be visible. Some indications of the comparative brightness of these stars would also be desirable.

Astronomers who may be disposed to take part in this work are requested to send the chart of any particular region, as soon as possible after its revision, to the address given below.

*Harvard College Observatory,
Cambridge, Mass. (U.S.):
1884, Dec. 17.*

Second Report of the Committee on Standards of Stellar Magnitudes.

The first Report of this Committee (*Proc. Amer. Assoc.* xxx. p. 1) included a plan for the determination of standards for stars fainter than the tenth magnitude. Twenty-four bright equatorial stars were chosen, and the standards were to be selected from the regions following them from two to six minutes of time, and not differing in Declination from the leading stars by more than five minutes of arc. The observations described below have been made at the Harvard College Observatory unless otherwise stated. The light of each of the leading stars has been determined on from seven to eighteen nights with the meridian photometer. Charts have been constructed of all the stars visible with the 15-in. telescope, in all but three of the regions from which the standards are to be selected. Most of these charts have been submitted to a careful scrutiny with the 15-in. telescope of the Washburn Observatory. An important test of the completeness of the charts is thus afforded.

In the following table three successive columns give the names of the twenty-four leading stars and their approximate Right Ascensions and Declinations for 1880. The next two

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columns give the number of nights on which they were observed with the meridian photometer, and the resulting magnitude. The details of these measures and a comparison with various other determinations of their light will be found in the *Harc. Observ. Annals*, vol. xiv. The last columns give the number of stars in each of the charts, and the corresponding number of stars contained in the same portions of the *Durchmusterung*.

Stars suitable for standards must next be selected by the help of the charts. The light of these stars should then be measured in as many different ways as possible. The Committee will be much indebted for aid that may be rendered them in this portion of their work. The early publication of the charts now becomes a matter of importance, as it would permit their immediate use for various purposes.

Name.	R.A. 1880.	Dec. 1880.	No. Nights.	Phot. Mag.	Stars on Chart.	D. M. Stars.
	^h ^m	[°] [']				
γ Pegasi	0 7.1	+ 14 31	13	3.04	49	3
θ^1 Ceti	1 18.0	- 8 48	12	3.77	27	
α Piscium	1 55.9	+ 2 11	12	3.99		1
α Ceti	2 56.0	+ 3 37	11	2.68		2
γ Eridani	3 52.4	- 13 51	10	3.05	30	
α Tauri	4 29.0	+ 16 16	16	1.00	19	3
ϵ Orionis	5 30.1	- 1 17	16	1.76	42	6
γ Geminorum	6 30.8	+ 16 30	17	2.00	150	5
α Canis Min.	7 33.0	+ 5 32	15	0.46	96	3
ϵ Hydræ	8 40.4	+ 6 51	7	3.58	64	4
α Leonis	10 2.0	+ 12 33	15	1.42	39	1
θ Leonis	11 7.0	+ 16 5	10	3.47	24	3
η Virginis	12 13.8	+ 0 0	10	4.05	23	2
α Virginis	13 18.9	- 10 32	13	1.23	30	
α Boötis	14 10.2	+ 19 48	13	0.03	25	1
β Libræ	15 10.5	- 8 56	14	2.74	39	
δ Ophiuchi	16 8.1	- 3 23	11	2.77	48	
η Ophiuchi	17 3.5	- 15 34	10	2.62	100	
η Serpentis	18 15.1	- 2 56	10	3.35	7	
δ Aquilæ	19 19.4	+ 2 53	14	3.46		3
θ Aquilæ	20 5.1	- 1 11	10	3.39	110	2
β Aquarii	21 25.2	- 6 6	10	3.14	52	
α Aquarii	21 59.6	- 0 54	10	3.16	48	0
α Pegasi	22 58.8	+ 14 34	18	2.61	29	3